



Practice Masters Level A

7.1 An Introduction to Polynomials

Determine whether each expression is a polynomial. If so, classify the polynomial by degree and by number of terms.

1. $3x^2 + 2x + 1$ _____ 2. $4x^3 + 5x^2 - 7x + 2$ _____

3. $\frac{6}{x^2} + \frac{2}{x} - 3$ _____ 4. $\frac{1}{2}x^4 - 3x^2 + 5$ _____

Evaluate each polynomial expression for the indicated value of x .

5. $x^2 - 3x + 6$ for $x = 2$ _____ 6. $x^3 - 3x^2 + 4x + 7$ for $x = 3$ _____

7. $2x^4 - 3x + 2$ for $x = 2$ _____ 8. $x^2 + 7x - 10$ for $x = -2$ _____

Write each sum or difference as a polynomial in standard form.

9. $(6x^3 - 2x^2 + 7x + 6)$
 $+ (3x^3 + 2x^2 - 5x + 1)$

10. $(9x^3 + 7x^2 - 5x - 2)$
 $- (6x^3 + 4x^2 + x + 6)$

11. $(4x^2 + 2x + 1) - (6x^2 + 10x - 7)$

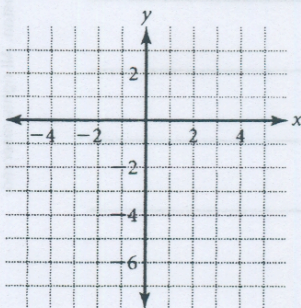
12. $(4x^4 + 3x - 5)$
 $+ (2x^4 + 6x^3 - 3x^2 + 9x - 5)$

13. $(3x - 5) - (2x^2 + 5x + 2)$

14. $(6.2x^3 + 3.1x - 2.1x^2)$
 $+ (3.1x^2 - 6.2x + 2.1x^3)$

Sketch the graph of each function. Describe the general shape of the graph.

15. $s(x) = x^3 + x^2 - 4x - 4$



16. $r(x) = x^4 - 2x^3 - 4x^2 + x + 2$

